

Ethereum の動作環境構築について

Vol.1 Microsoft Windows における環境構築

一般社団法人フィンテック研究振興協会

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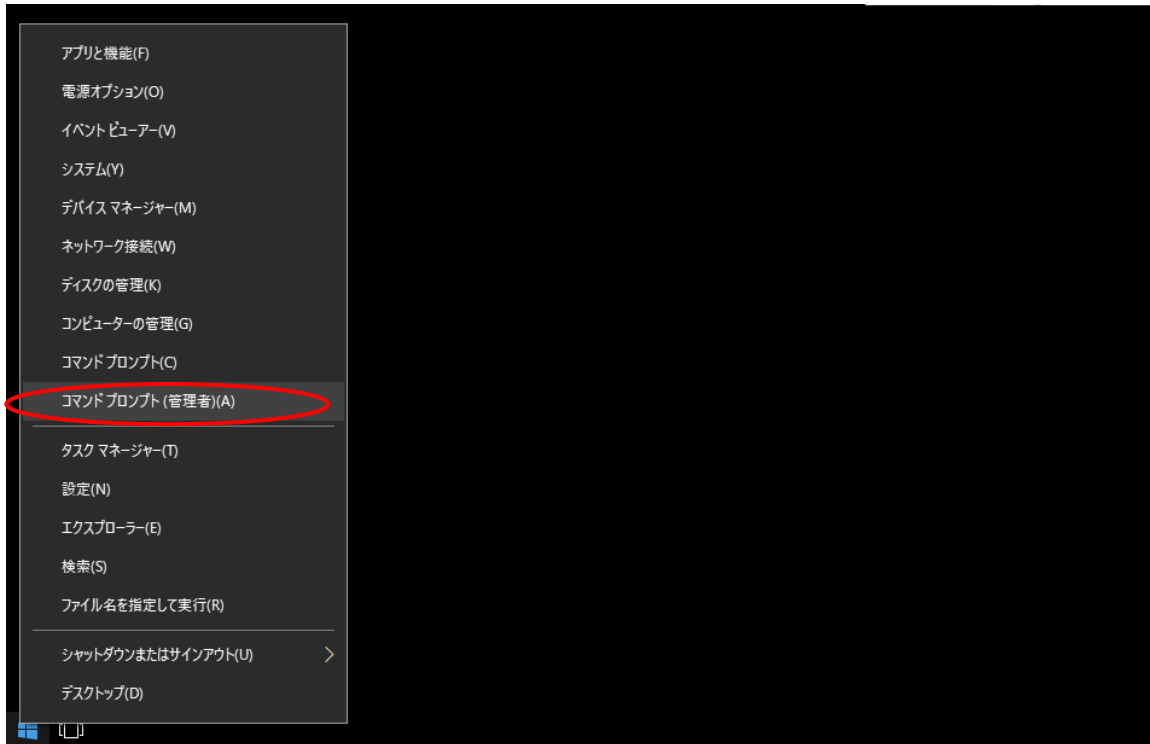
Ethereum 環境構築手順 (Windows)

■ chocolatey をインストールする

1. 管理者権限でコマンドプロンプトを起動する

スタートを右クリックして「コマンドプロンプト(管理者)(A)」をクリックします。

キーボードで[スタート]を押しながら[X]を押し、メニューが表示されたら[A]を押しても起動できます。



2. Chocolatey のインストールコマンドを実行する

[chocolatey](https://chocolatey.org/install) のサイト (<https://chocolatey.org/install>) に掲載されているコマンドを実行します。

下図の赤枠で囲んだ箇所をクリックし、コマンドプロンプトに貼り付け **Enter** で実行します。

NOTES:


If you are behind a proxy, please see [Installing behind a proxy](#).

Need completely offline solution? See [Completely Offline Install](#).

Installing the licensed edition? See [install licensed edition](#).

[More Options / Troubleshooting](#)

Install with cmd.exe


Run the following command:  (copy command text)

```
@'%SystemRoot%\System32\WindowsPowerShell\v1.0\powershell.exe' -NoProfile -InputFormat None -ExecutionPolicy Bypass -C
```

Install with PowerShell.exe

With PowerShell, there is an additional step. You must ensure [Get-ExecutionPolicy](#) is not Restricted. We suggest using `Bypass` to bypass the policy to get things installed or `AllSigned` for quite a bit more security.

Run `Get-ExecutionPolicy`. If it returns `Restricted`, then run `Set-ExecutionPolicy AllSigned` or `Set-ExecutionPolicy Bypass -Scope Process`.

Now run the following command:  (copy command text)

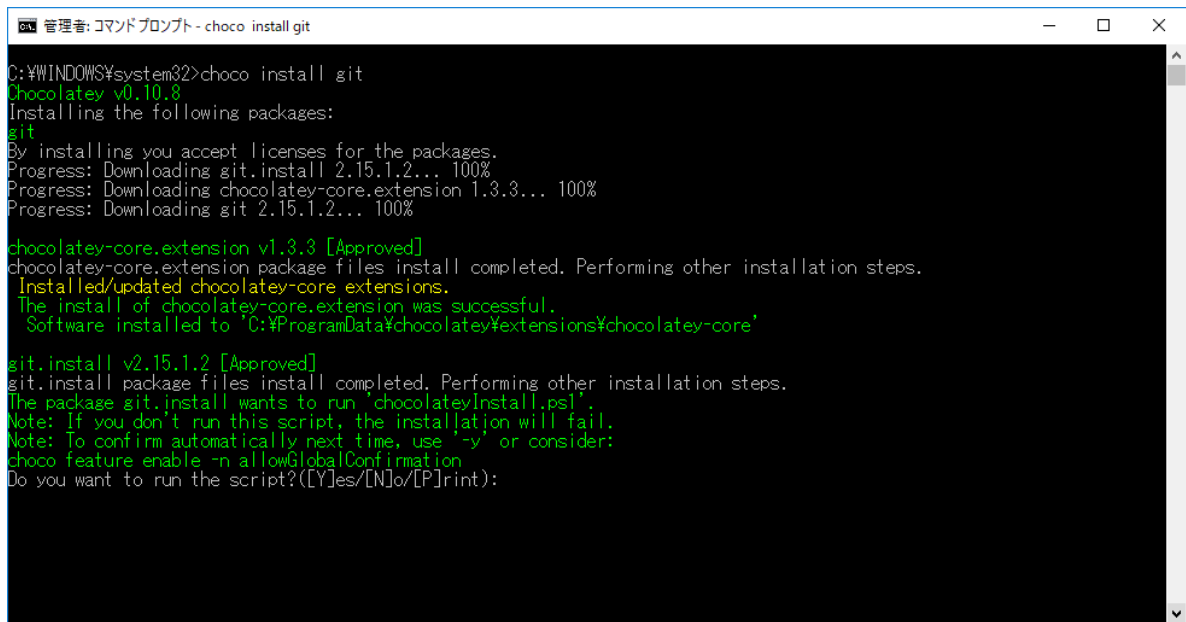
```
Set-ExecutionPolicy Bypass -Scope Process -Force; iex ((New-Object System.Net.WebClient).DownloadString('https://cho
```

実行完了後に「choco -?」と入力し、ヘルプが表示されればインストール完了です。

■ ビルドツールをインストールする

1. Git をインストールする

コマンドプロンプト(管理者権限)にて「choco install git」と入力し、Enter で実行します。

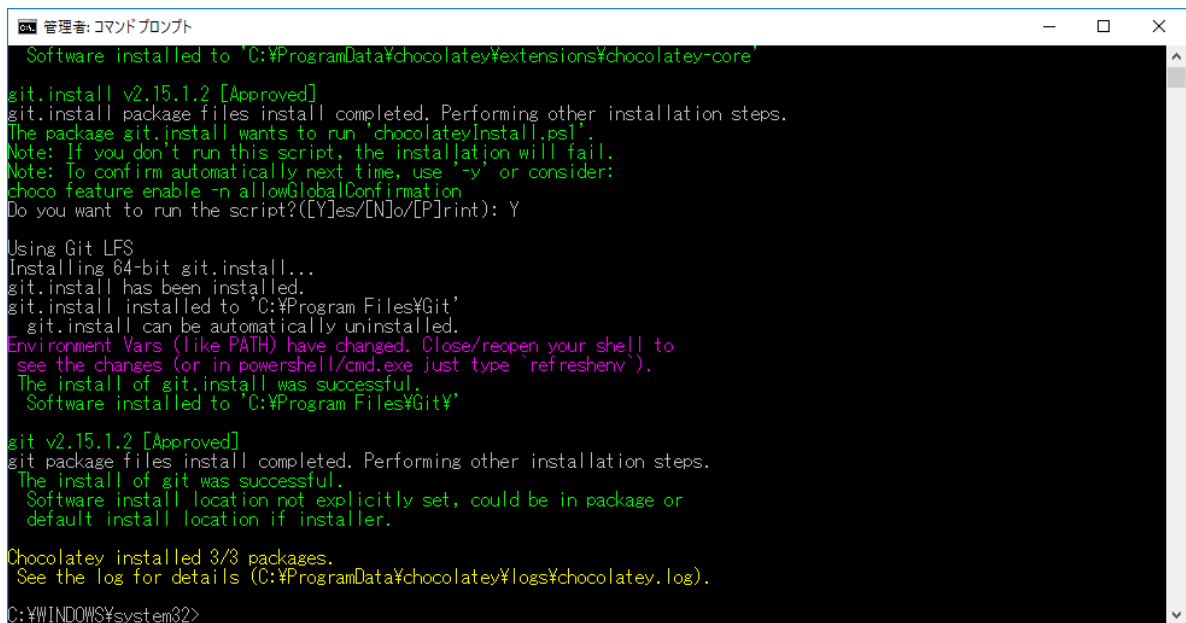


```
管理者: コマンドプロンプト - choco install git
C:\WINDOWS\system32>choco install git
Chocolatey v0.10.8
Installing the following packages:
git
By installing you accept licenses for the packages.
Progress: Downloading git.install 2.15.1.2... 100%
Progress: Downloading chocolatey-core.extension 1.3.3... 100%
Progress: Downloading git 2.15.1.2... 100%

chocolatey-core.extension v1.3.3 [Approved]
chocolatey-core.extension package files install completed. Performing other installation steps.
  Installed/updated chocolatey-core extensions.
  The install of chocolatey-core.extension was successful.
  Software installed to 'C:\ProgramData\chocolatey\extensions\chocolatey-core'

git.install v2.15.1.2 [Approved]
git.install package files install completed. Performing other installation steps.
The package git.install wants to run 'chocolateyInstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[N]o/[P]rint):
```

「Do you want to run the script?([Y]es/[N]o/[P]rint):」 と表示されたら[Y]と入力し、Enter を押します。



```
Software installed to 'C:\ProgramData\chocolatey\extensions\chocolatey-core'

git.install v2.15.1.2 [Approved]
git.install package files install completed. Performing other installation steps.
The package git.install wants to run 'chocolateyInstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[N]o/[P]rint): Y

Using Git LFS
Installing 64-bit git.install...
git.install has been installed.
git.install installed to 'C:\Program Files\Git'
git.install can be automatically uninstalled.
Environment Vars (like PATH) have changed. Close/reopen your shell to
see the changes (or in powershell/cmd.exe just type 'refreshenv').
The install of git.install was successful.
  Software installed to 'C:\Program Files\Git'

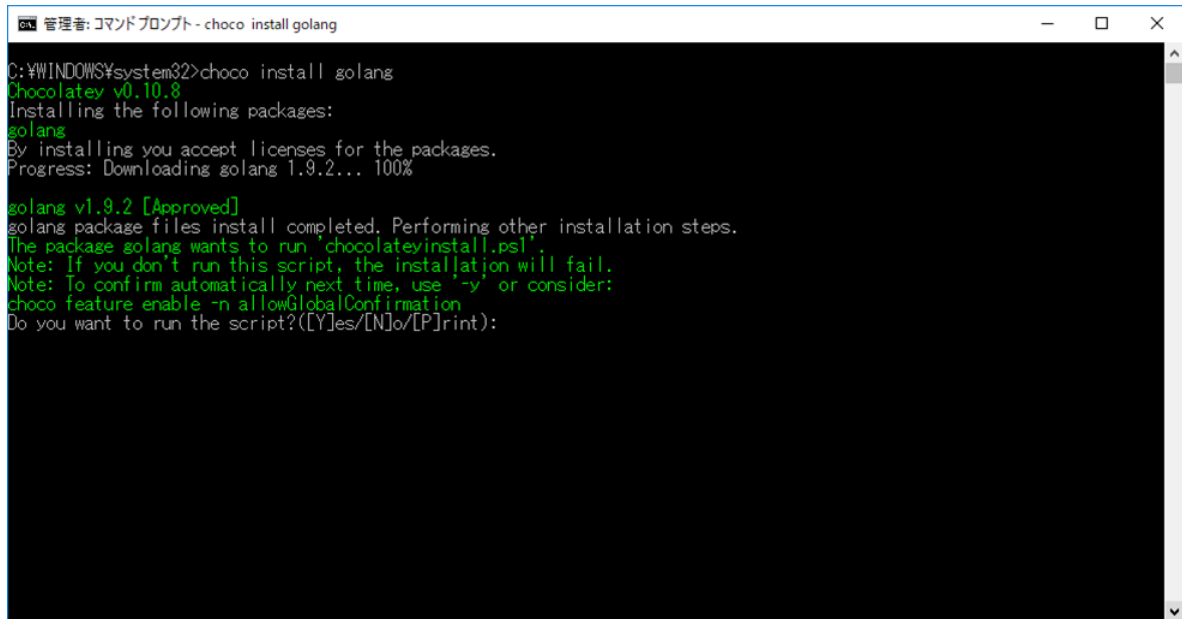
git v2.15.1.2 [Approved]
git package files install completed. Performing other installation steps.
The install of git was successful.
  Software install location not explicitly set, could be in package or
  default install location if installer.

Chocolatey installed 3/3 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
C:\WINDOWS\system32>
```

「Chocolatey installed 3/3 packages.」 と表示されたらインストール完了です。

2. Go 言語をインストールする

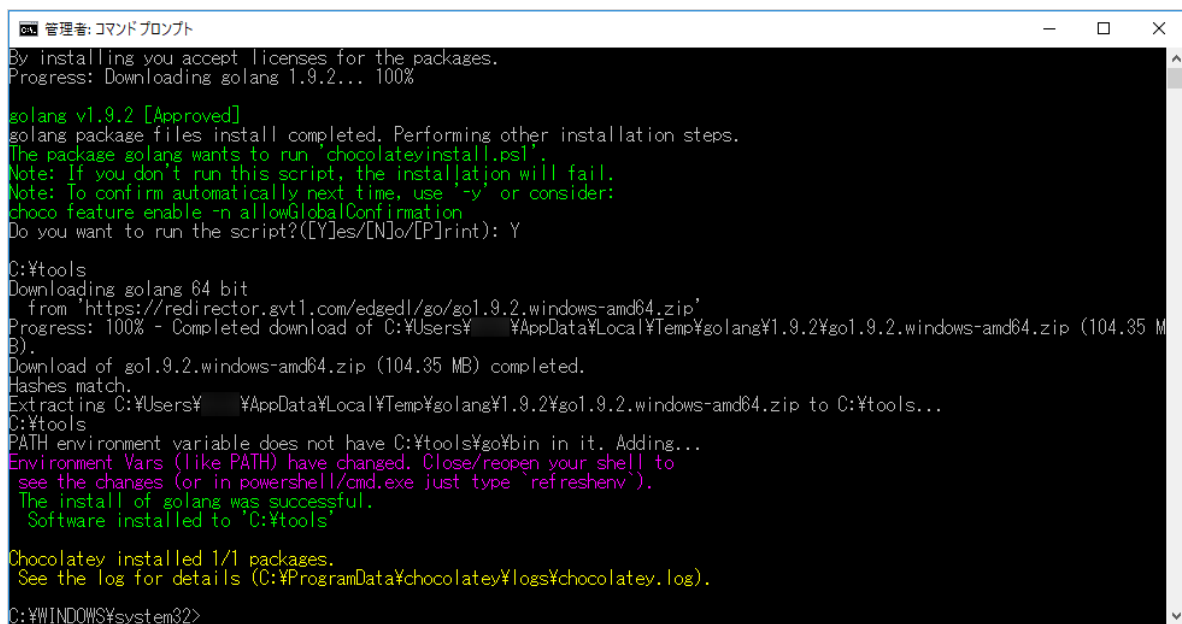
コマンドプロンプト(管理者権限)にて「choco install golang」と入力し、Enter で実行します。



```
管理者: コマンド プロンプト - choco install golang
C:\WINDOWS\system32>choco install golang
Chocolatey v0.10.8
Installing the following packages:
golang
By installing you accept licenses for the packages.
Progress: Downloading golang 1.9.2... 100%

golang v1.9.2 [Approved]
golang package files install completed. Performing other installation steps.
The package golang wants to run 'chocolateyinstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[N]o/[P]rint):
```

「Do you want to run the script?([Y]es/[N]o/[P]rint):」 と表示されたら[Y]と入力し、Enter を押しま
す。



```
By installing you accept licenses for the packages.
Progress: Downloading golang 1.9.2... 100%

golang v1.9.2 [Approved]
golang package files install completed. Performing other installation steps.
The package golang wants to run 'chocolateyinstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[N]o/[P]rint): Y

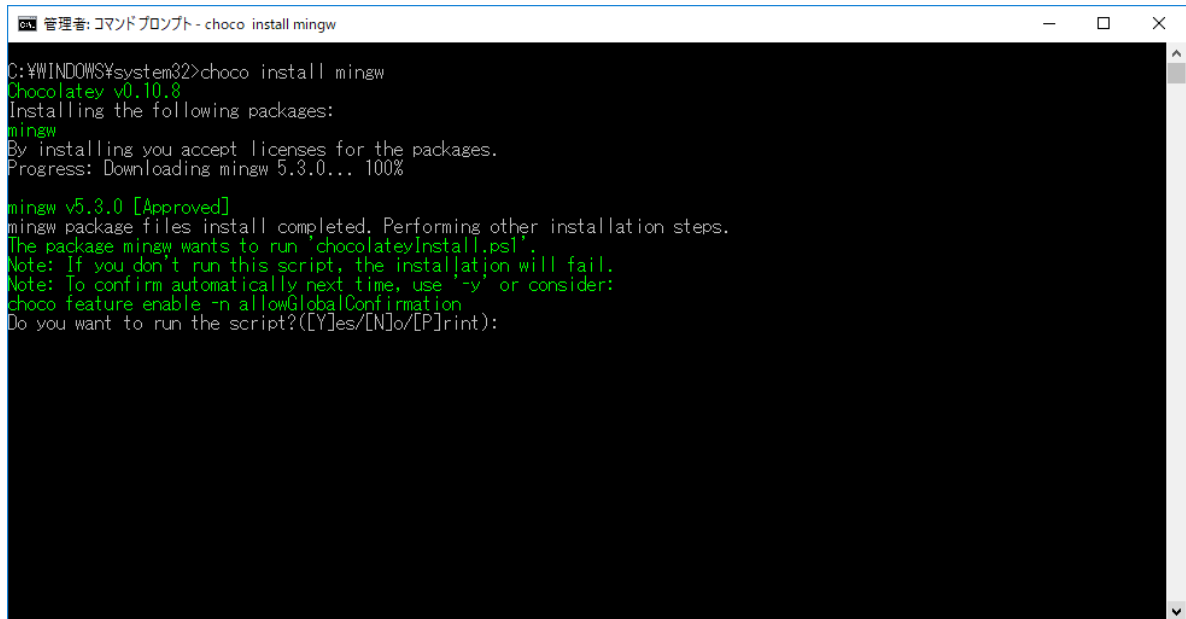
C:\tools
Downloading golang 64 bit
  from 'https://redirector.gvt1.com/edgedl/go/go1.9.2.windows-amd64.zip'
Progress: 100% - Completed download of C:\Users\%user%\AppData\Local\Temp\golang%1.9.2%go1.9.2.windows-amd64.zip (104.35 M
B).
Download of go1.9.2.windows-amd64.zip (104.35 MB) completed.
Hashes match.
Extracting C:\Users\%user%\AppData\Local\Temp\golang%1.9.2%go1.9.2.windows-amd64.zip to C:\tools...
C:\tools
PATH environment variable does not have C:\tools\go\bin in it. Adding...
Environment Vars (like PATH) have changed. Close/reopen your shell to
see the changes (or in powershell/cmd.exe just type 'refreshenv').
The install of golang was successful.
  Software installed to 'C:\tools'

Chocolatey installed 1/1 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
C:\WINDOWS\system32>
```

「Chocolatey installed 1/1 packages.」 と表示されたらインストール完了です。

3. MinGW をインストールする

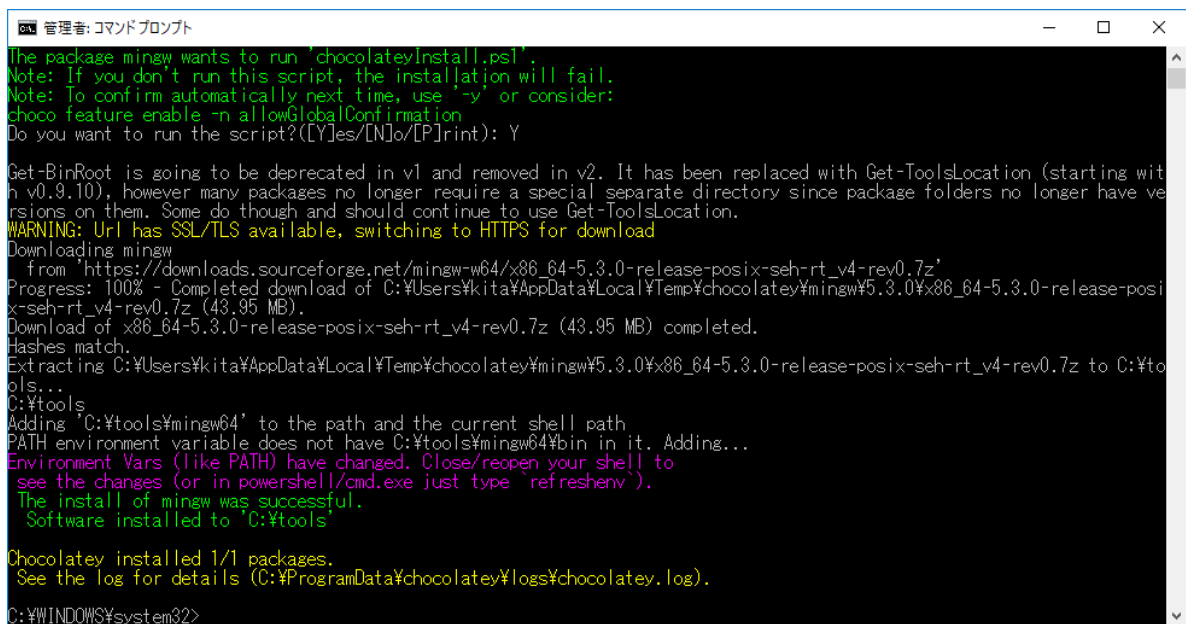
コマンドプロンプト(管理者権限)にて「choco install mingw」と入力し、Enter で実行します。



```
管理: コマンドプロンプト - choco install mingw
C:\WINDOWS\system32>choco install mingw
Chocolatey v0.10.8
Installing the following packages:
mingw
By installing you accept licenses for the packages.
Progress: Downloading mingw 5.3.0... 100%

mingw v5.3.0 [Approved]
mingw package files install completed. Performing other installation steps.
The package mingw wants to run 'chocolateyInstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[N]o/[P]rint):
```

「Do you want to run the script?([Y]es/[N]o/[P]rint):」 と表示されたら[Y]と入力し、Enter を押します。



```
管理: コマンドプロンプト
The package mingw wants to run 'chocolateyInstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[N]o/[P]rint): Y

Get-BinRoot is going to be deprecated in v1 and removed in v2. It has been replaced with Get-ToolsLocation (starting with v0.9.10), however many packages no longer require a special separate directory since package folders no longer have versions on them. Some do though and should continue to use Get-ToolsLocation.
WARNING: Url has SSL/TLS available, switching to HTTPS for download
Downloading mingw
  from 'https://downloads.sourceforge.net/mingw-w64/x86_64-5.3.0-release-posix-seh-rt_v4-rev0.7z'
Progress: 100% - Completed download of C:\Users\kita\AppData\Local\Temp\chocolatey\mingw\5.3.0\x86_64-5.3.0-release-posix-seh-rt_v4-rev0.7z (43.95 MB).
Download of x86_64-5.3.0-release-posix-seh-rt_v4-rev0.7z (43.95 MB) completed.
Hashes match.
Extracting C:\Users\kita\AppData\Local\Temp\chocolatey\mingw\5.3.0\x86_64-5.3.0-release-posix-seh-rt_v4-rev0.7z to C:\tools...
C:\tools
Adding 'C:\tools\mingw64' to the path and the current shell path
PATH environment variable does not have C:\tools\mingw64\bin in it. Adding...
Environment Vars (like PATH) have changed. Close/reopen your shell to see the changes (or in powershell/cmd.exe just type 'refreshenv').
The install of mingw was successful.
  Software installed to 'C:\tools'

Chocolatey installed 1/1 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
C:\WINDOWS\system32>
```

「Chocolatey installed 1/1 packages.」 と表示されたらインストール完了です。

■ Github よりソースをダウンロードする

コマンドプロンプトを起動し、以下のコマンドを実行します。

※ ビルドツールのインストールから続けて行う場合は、一度コマンドプロンプトを起動し直してください。

```
C:\Users\¥xxx> set "GOPATH=%USERPROFILE%"
C:\Users\¥xxx> set "Path=%USERPROFILE%\¥bin;¥Path%"
C:\Users\¥xxx> setx GOPATH "%GOPATH%"
C:\Users\¥xxx> setx Path "%Path%"
C:\Users\¥xxx> mkdir src\¥github.com\¥ethereum
C:\Users\¥xxx> git clone https://github.com/ethereum/go-ethereum src\¥github.com\¥ethereum\¥go-ethereum
C:\Users\¥xxx> cd src\¥github.com\¥ethereum\¥go-ethereum
C:\Users\¥xxx> go get -u -v golang.org/x/net/context
```

■ ビルドする

コマンドプロンプトを起動し、以下のコマンドを実行します。

```
C:\Users\¥xxx>cd "%GOPATH%\src\¥github.com\¥ethereum\¥go-ethereum"
C:\Users\¥xxx\src\¥github.com\¥ethereum\¥go-ethereum > go install -v ./cmd/...
```

ビルドが完了すると%GOPATH%\¥bin に exe が作成されます。